

Specification Amendments

✓
Please replace the title of the invention with the following:

METHOD FOR REDUCING LIGHT REFLECTANCE IN A PHOTOLITHOGRAPHIC DUAL DAMASCENE TRENCH PATTERNING PROCESS

Please replace the Abstract at paragraph 0045 beginning at page 25 with the following rewritten paragraph:

A₁
0045 A method for reducing light reflectance in ^a ₁ photolithographic dual damascene trench patterning ~~manufacturing~~ process is disclosed including providing an inter-metal dielectric (IMD) layer including at least one via opening extending ~~substantially perpendicular to~~ through a thickness ~~thereof therethrough;~~ and, conformally forming an antireflectance coating (ARC) layer over ^{the} ~~said~~ IMD layer such that the ARC layer is formed over sidewalls of the at least one via opening to reduce light reflectance.

Please replace paragraphs 0018 beginning at page 10 with the following rewritten paragraph:

0018 According to a first embodiment, the present invention provides a method for reducing light reflectance in a photolithographic process, including providing an inter-metal dielectric (IMD) layer including at least one via opening extending ~~substantially perpendicular to~~ through a thickness ~~thereof~~ therethrough; and, conformally forming an antireflectance coating (ARC) layer over said IMD layer such that the ARC layer is formed over sidewalls of the at least one via opening to reduce light reflectance.

Please replace paragraphs 0022 beginning at page 11 with the following rewritten paragraph:

0022 In another related embodiment, the present invention provides a method including providing an inter-metal dielectric (IMD) layer including at least one via opening extending ~~substantially perpendicular to~~ through a thickness ~~thereof~~ therethrough; and, conformally forming an antireflectance coating (ARC) layer over said IMD layer such that the ARC layer is formed over sidewalls of the at least one via opening to reduce light reflectance, the said at least one via opening includes at least two via openings formed substantially adjacent to one another.

Please replace the paragraph 0029 beginning on page 14 with the following rewritten paragraph:

A4 0029 According to a first embodiment of the present invention, there is provided a method including providing an inter-metal dielectric (IMD) layer including at least one via opening extending ~~substantially perpendicular to~~ through a thickness thereof ~~therethrough~~; and, conformally forming an antireflectance coating (ARC) layer over said IMD layer such that the ARC layer is formed over sidewalls of the at least one via opening to reduce light reflectance.

Please replace the paragraph 0030 beginning on page 14 with the following rewritten paragraph:

A5 0030 Figure 2 is a cross-sectional view of a portion of a dual damascene structure shown at a stage of processing. As shown in Figure 2, according to a first embodiment of the resent invention, an inter-metal dielectric (IMD) layer 20 is shown as a portion of a dual damascene structure including via openings 22a, 22b, 22c, 22d extending ~~substantially perpendicular to~~ through a thickness thereof ~~therethrough~~.

U.S.S.N. 09/941,537

Please replace the paragraph 0038 beginning on page 17 with the following rewritten paragraph:

0038 The preferred deposition method for ARC 22 25 is a PECVD process. Although such a deposition processes is preferred, it will be appreciated by the skilled artisan that the ARC 22 25 may be deposited using any suitable deposition processes such as CVD, PVD, and sputter deposition processes.

Please replace paragraph 0040 beginning on page 17 with the following rewritten paragraph:

0040 Figure 3 is a cross-sectional view of a portion of a dual damascene structure at a stage of manufacture. The discussion above with respect to Figure 2 generally applies to Figure 3 as well. Figure 3 depicts a stage of manufacture following the formation of a first dielectric layer 30 on an underlying substrate (not shown); forming at least one dielectric layer (e.g., 38) over said first dielectric layer; forming at least one antireflectance coating (ARC) layer (e.g., 36) over the at least one dielectric layer; forming at least one via opening (e.g. 32a, 32b) substantially through the ARC layer 36, the at least one dielectric layer 38, and the first dielectric layer ~~38~~ 30, the at least one via opening 32a, 32b ; forming at least one additional ARC layer 35 substantially conformally over the at

A7
cont. least one ARC layer 36 and the at least one via opening 32a,
32b); forming a layer of photoresist ~~36~~ 37 over the at least one
additional ARC layer 35; and, exposing selected regions of the
layer of photoresist layer to light such that the light
penetrates the layer of photoresist and is at least partially
absorbed by the at least one ARC layer (36) and the at least one
additional ARC layer 35.

Please replace the paragraph 0042 beginning on page 18 with
the following rewritten paragraph:

A8 0042 The photoresist layer ~~36~~ 37 serving to define the
trench opening pattern ~~38~~ 39 is preferably from 5000 to 9000 ← ?
Angstroms. It will further be appreciated by those skilled in the
art that positive photoresist is the preferable photoresist.
